

CLAIMS

What is claimed is:

1. An occupant classification sense element comprising:  
a body having a center portion, a first attachment portion connected to said center portion by a first flexible beam, and a second attachment portion connected to said center portion by a second flexible beam; and  
first and second strain sensing elements attached to said first flexible beam and third and fourth strain sensing elements attached to said second flexible beam;  
whereby said first, second, third and fourth strain sensing elements cooperate to produce an electrical signal indicative of a force deflecting said first and second flexible beams.
2. The sense element of claim 1 wherein said body is formed of titanium.
3. The sense element of claim 1 wherein said center portion, first attachment portion, and said second attachment portion are coplanar.

4. The sense element of claim 1 wherein said first, second, third, and fourth strain sensing elements are formed of ruthenium dioxide.
5. The sense element of claim 1 wherein said first, second, third, and fourth strain sensing elements are arranged in a Wheatstone bridge and said electrical signal is derived from an output of said Wheatstone bridge.
6. The sense element of claim 5 wherein said electrical signal is an input to a signal conditioning circuit.
7. The sense element of claim 6 wherein said signal conditioning circuit has an analog electrical output indicative of said input.

8. A seat mounting arrangement in a vehicle, the arrangement comprising:

a seat base;

a body having a center portion adapted for securing to a floor of the vehicle, a first attachment portion connected to said center portion by a first flexible beam, and a second attachment portion connected to said center portion by a second flexible beam, said first and second attachment portions being secured to said seat base;

first and second strain sensing elements attached to said first flexible beam and third and fourth strain sensing elements attached to said second flexible beam;

whereby said first, second, third and fourth strain sensing elements cooperate to produce an electrical signal indicative of a force applied to said seat base, thereby deflecting said first and second flexible beams.

9. The sense element of claim 8 wherein said body is formed of titanium.

10. The sense element of claim 8 wherein said center portion, first attachment portion, and said second attachment portion are coplanar.
11. The sense element of claim 8 wherein said first, second, third, and fourth strain sensing elements are formed of ruthenium dioxide.
12. The sense element of claim 8 wherein said first, second, third, and fourth strain sensing elements are arranged in a Wheatstone bridge and said electrical signal is derived from an output of said Wheatstone bridge.
13. The sense element of claim 12 wherein said electrical signal is an input to a signal conditioning circuit.
14. The sense element of claim 13 wherein said signal conditioning circuit has an analog electrical output indicative of said input.